

AMENDMENTS TO THE CLAIMS

Claims 1-31 (Canceled)

32. (Currently Amended) An optical recording method for directing a recording pulse train to an optical disc medium to form marks thereon and for recording information as information about the edge positions of said marks and the spaces between marks, the recording pulse train having been created by modulating laser light into plural power levels, wherein the method comprises:

coding to-be-recorded data into coded data consisting of the combination of marks and spaces;

~~classifying said marks within said coded data on the basis of the mark length and the preceding or succeeding space lengths of the marks;~~

shifting the position of the second pulse edge counted from the starting end portion of the recording pulse train for forming said marks, ~~depending on the result of said classification,~~ to adjust said recording pulse train; and

directing said recording pulse train to the optical disc medium to form said marks thereon.

33. (Canceled)

34. (Currently Amended) The optical recording method according to Claim 32, wherein in the course of the step of adjusting said recording pulse train, shifting the position of the second pulse edge of said recording pulse train which is counted from the ending end portion thereof, ~~depending on the result of said classification.~~

35. (Currently Amended) The optical recording method according to Claim 32, wherein in the course of the step of adjusting said recording pulse train, further shifting the position of the pulse edge at the ending end portion of said recording pulse train, ~~depending on the result of said classification.~~

36. (Currently Amended) The optical recording method according to Claim 32, wherein in the course of the step of adjusting said recording pulse train, further shifting the position of the pulse edge at the starting end portion of said recording pulse train; ~~depending on the result of said classification.~~

37. (Currently Amended) The optical recording method according to Claim 32, wherein said recording pulse train for recording said marks includes three ~~five~~ or more pulse edges.

38. (Currently Amended) The optical recording method according to Claim 37, wherein in the course of the step of adjusting said recording pulse train, further shifting the position of the third pulse edge of said recording pulse train which is counted from the ending end portion thereof; ~~depending on the result of said classification.~~

39. (Currently Amended) The optical recording method according to Claim 37, wherein in the course of the step of adjusting said recording pulse train, further shifting the position of the third pulse edge of said recording pulse train which is counted from the starting end portion thereof; ~~depending on the result of said classification.~~

40. (Previously Presented) The optical recording method according to Claim 32, wherein said recording pulse train is created by modulating the laser light with at least three power values which are a first power, a second power and a third power in order of intensity.

41–47 (Canceled)

48. (Currently Amended) An optical recording apparatus for directing a recording pulse train to an optical disc medium to form marks thereon and for recording information as information about the edge positions of said marks and the spaces between marks, the recording pulse train having been created by modulating laser light into plural power levels, the apparatus comprising:

coding unit operable to code to-be-recorded data into coded data consisting of the combination of marks and spaces;

~~classifying unit operable to classify said marks within said coded data on the basis of the combination of the mark length and the preceding or succeeding space lengths;~~

recording waveform generator operable to create a recording pulse train for creating said marks in which the position of the second pulse edge counted from the starting end portion thereof has been shifted ~~depending on the result of said classification~~;

and

laser driving unit operable to direct said recording pulse train to the optical disc medium to form said marks thereon.

49-51 (Canceled)

52. (Currently Amended) The optical recording apparatus according to Claim 48, wherein said recording waveform generator shifts the position of the second pulse edge of said recording pulse train which is counted from the ending end portion thereof; ~~depending on the result of said classification.~~

53. (Currently Amended) The optical recording apparatus according to Claim 48, wherein said recording waveform generator further shifts the position of the pulse edge at the ending end portion of said recording pulse train; ~~depending on the result of said classification.~~

54. (Currently Amended) The optical recording apparatus according to Claim 48, wherein said recording waveform generator further shifts the position of the pulse edge at the starting end portion of said recording pulse train; ~~depending on the result of said classification.~~

55. (Currently Amended) The optical recording apparatus according to Claim 48, wherein said recording pulse train for recording said marks includes three ~~five~~ or more pulse edges.

56. (Currently Amended) The optical recording apparatus according to Claim 55, wherein said recording waveform generator further shifts the position of the third pulse edge of said recording pulse train which is counted from the ending end portion thereof; ~~depending on the result of said classification.~~

57. (Currently Amended) The optical recording apparatus according to Claim 55, wherein said recording waveform generator further shifts the position of the third pulse edge of said recording pulse train which is counted from the starting end portion thereof; ~~depending on the result of said classification.~~

58. (Previously Presented) The optical recording apparatus according to Claim 48, wherein said recording waveform generator creates said recording pulse train by modulating the laser light with at least three power values which are a first power, a second power and a third power in order of intensity.

59-62 (Canceled)

63. (New) The optical recording method according to Claim 32, further comprising:
classifying said marks within said coded data on the basis of the mark length,
wherein in the course of the step of adjusting said recording pulse train, shifting the position of the second pulse edge, depending on the result of said classification, to adjust said recording pulse train.

64. (New) The optical recording method according to Claim 63, wherein in the course of the step of classifying said marks, further classifying the mark lengths of said marks into at least three types of mark lengths n , $n+1$ and $n+2$ (n : a positive integer).

65. (New) The optical recording apparatus according to Claim 48, further comprising:

classifying unit operable to classify said marks within said coded data on the basis of the mark length,

wherein the recording waveform generator shifts the position of the second pulse edge, depending on the result of said classification, and creates a recording pulse train for creating said marks.

66. (New) The optical recording apparatus according to Claim 65, wherein said classifying unit classifies the mark lengths of said marks into at least three types of mark lengths n , $n+1$ and $n+2$ (n : a positive integer).

67. (New) An optical disc medium including a recording region for recording data by a method for directing a recording pulse train to the optical disc medium to form marks thereon and for recording information as information about the edge positions of said marks and the spaces between marks, the recording pulse train having been created by modulating laser light into plural power levels, wherein the method comprises:

coding to-be-recorded data into coded data consisting of the combination of marks and spaces;

shifting the position of the second pulse edge counted from the starting end portion of the recording pulse train for forming said marks, to adjust said recording pulse train; and

directing said recording pulse train to the optical disc medium to form said marks thereon.

68. (New) Playbacking method for playbacking the optical disc medium as claimed in claim 67, wherein the method comprises:

directing optical beam to the optical disc medium; and
playbacking the data recorded on the recording region.